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SCHLECHTER,⁵ in monographing the tribe Thismieae of Burmanniaceae, recognizes ten genera, the following two being new: *Scaphiophora* and *Triurocodon*.

PERKINS,⁶ in monographing the African species of *Pycnostachys* (Labiateae), recognizes 33 species, 8 of which are new. The same author has also monographed the African species of *AchyrospERMUM* (Labiateae), recognizing 12 species, 3 of which are new.

BROWN,⁷ in naming a collection of plants from southeastern Congo, Rhodesia, and South Africa, has described 30 new species, and also a new genus (*Alistilus*) of Leguminosae.

DIELS,⁸ in continuation of his investigation of the flora of Micronesia, has published the following families: Myrtaceae, Myrsinaceae, Elaeocarpaceae, Asclepiadaceae, Scrophulariaceae, and Gesneraceae.—J. M. C.

Citrus diseases in the Orient.—The study of citrus diseases in the Orient is of particular interest and importance since most of our cultivated citrus fruits undoubtedly had their origin in this region. REINKING'S⁹ recent paper therefore, is timely and interesting. A description of the diseases, a discussion of the causal organism, and suggestions regarding the control measures proper for each is given. A summary showing the citrus varieties found in each country, with the diseases to which they are subject, is given, also a list of scale insects and fungi parasitic on scales. Fourteen good plates, devoted chiefly to illustrating citrus canker (*Pseudomonas citri*), bark rot (*Diplodia*), and pink disease (*Corticium salmonicolor*) complete the article. The two latter diseases, occurring in the Philippines and unknown in the United States, are apparently of major importance, warranting every precaution against their spread or introduction into new territory. A "black spot" disease occurring in South China, of unknown cause, is also regarded as serious.

Particular attention is given to the degree of susceptibility to citrus canker shown by different species, hybrids, and relatives of citrus planted out at Los Baños, Philippine Islands. Observations of this character have an important bearing on the selection of material for culture in regions exposed to canker

⁵ SCHLECHTER, R., Die Thismieae. Notizblatt Bot. Gart. u. Mus. Berlin-Dahlem. 8: no. 71. 31-45. 1921.

⁶ PERKINS, JANET, Die afrikanischen *Pycnostachys*-Arten. Notizblatt Bot. Gart. u. Mus. Berlin-Dahlem. 8: no. 71. 63-77. 1921; Die afrikanischen *AchyrospERMUM*-Arten. *Ibid.* 78-82.

⁷ BROWN, N. E., New plants from tropical and South Africa collected by Archdeacon F. A. ROGERS. Kew Bull. 1921: no. 8. 289-301.

⁸ DIELS, L., Beiträge zur Flora von Mikronesien und Polynesien. II. Engler's Bot. Jahrb. 56: 529-577. 1921.

⁹ REINKING, OTTO A., Citrus diseases of the Philippines, South China, Indo-China, and Siam. Philippine Agriculturist 9: 121-179. 1921.

infection. Hybrids having one or more resistant parents show in many instances promising resistance. The discussion, representing as it does some forty diseases and pests in the Philippines and nearly an equal number in the Asiatic countries visited, emphasizes the need for intensive studies of plant diseases in the regions where they have been long established.—W. T. SWINGLE.

Stelar morphology.—In his presidential address to the Royal Society of Edinburgh, BOWER¹⁰ emphasizes the importance of the principle of similitude (GALILEO) in the investigation of the stelar morphology of the higher plants. He argues that, inasmuch as the surface of an organ or tissue varies only as the square of its linear dimensions, but the bulk as the cube, the larger a plant is the more dependent it will be upon its form and detailed structure, not only for its stability, but also for the performance of its functions of absorption and transit of liquids and gases. This will apply not only to the external surface, but also to those internal surfaces which limit one tissue tract from another. Upon the basis of this premise, he concludes that in the ontogeny and phylogeny of ferns the form of the vascular tissues is largely dependent upon the size of the plant and of its various organs. Thus, as the fern plant and its foliar appendages become larger, the simple and presumably primitive protostele tends to become involuted, medullated (solenostely), or dissected into separate strands (polycycly, perforation, dictyostely).

BOWER's correlations between size, form, and function are very suggestive, and deserve careful consideration, particularly by students of the phylogeny of the vascular cryptogams. It must be admitted, however, that there is a considerable element of uncertainty in interpreting such correlations. The fact that complex structures tend to occur in large plants does not prove necessarily that size is the primary factor in their evolution, although such a conclusion appears to be extremely plausible.—I. W. BAILEY.

Deccan vegetation.—The ecological problems of many portions of India are complicated by the density of the population and the intensity of the grazing. The rainfall of 27 inches in the Deccan coming during the months from June to October, preceded by a very hot and dry period, causes the erosion of fields denuded of vegetation by drought and grazing. In such a region the study of natural vegetation in areas protected from cattle has been begun by BURNS and CHAKRADEV¹¹ as a preliminary to work on the improvement of grazing lands. Permanent quadrats were established within barbed wire inclosures. Native grasses such as *Andropogon monticola* and *Iseilema laxum* appear to be able to establish themselves completely, and it seems

¹⁰ BOWER, F. O., Size, a neglected factor in stelar morphology. Proc. Roy. Soc. Edinburgh 41:1-25. 1921.

¹¹ BURNS, W., and CHAKRADEV, G. M., An ecological study of Deccan grassland. Jour. Indian Bot. 2:84-91. 1921.